

Application No. 10/800,712 (Marsh) GAU 3632 Amnt. A contd. Page 8 of 13

REMARKS

Summary of Amendments

In this fourth office action response, amendments are proposed for Claim 2, and Specification sections Summary of the Invention and Brief Description of the Drawings, but no changes are requested for the drawings at this time.

The Summary of the Invention section has been reorganized — consolidating information that was spread across different parts of the Specification — in response to the Examiner's request for clarification of radial moisture movement in subsection c of the Claim. Diffusion's role in the function of the present invention is now expressly linked to each part of the pad where it is relevant. This amended organization now more clearly mirrors Claim subject matter in terms of composition, structural position, and function for the various parts of the pad. Liberty has been taken to correct two errors in punctuation and grammar in the Summary of the Invention. Though they had not been pointed out by the Examiner, not to correct basic errors, seemed a pedantic observation of the rules since this section received such extensive renovation of its content.

The Brief Description of the Drawings has been amended to identify the composition of each part of the present invention. Again, the purpose of the change is to consistently tie together throughout the application the concepts of layer composition and layer position.

Review of the Enablement Requirement Rejection Under §112

The Examiner asserts that "The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention." At its heart, the present invention manipulates the naturally

Application No. 10/800,712 (Marsh) GAU 3632 Amnt. A contd. Page 9 of 13

occurring process of diffusion, and, exploits what is known about the affects of fabric characteristics (e.g., cover factor) on the behavior of water molecules. The only skill necessary to make the present invention is the ability to assemble the specified types of fabric pieces and to fasten them together at their edges as is detailed in the drawings; an understanding of textile science or molecular behavior is not required. A maker may be skilled in the art of sewing, or sophisticated in the art of heat fusion or gluing. All of the specified types of fabrics are commercially available. For these reasons, the drawings focus on the specific structure of the pad: its layer composition (fabric type) and the position of these layers relative to one another. The drawings support the Specification and the Claim by clearly illustrating which layers are in contact with what other layers. Understanding the cooperation between pad layers described in the Specification is easier when their positions within the pad are made concrete by an illustration (Figures 1, 2, 5 and 6). But again, understanding how the layers cooperate is not necessary to use or make the present invention. As diffusion itself is not being claimed as the invention, its processes have not been added to the drawings. It is repeated throughout the Specification, and illustrated in the drawings (Figures 4 and 7), that using the present invention requires only the ability to place a multiserving vessel atop or over its center. The enablement requirement of 35 USC §112 is well satisfied by the Claim, Specification, and drawings.

Summary of Changes to the Specification Relating to Rejection Under §112

It is not a new concept that diffusion is an important factor in the function of the invention. Language commonly used to describe molecular behavior in terms of diffusion is peppered throughout the Specification and strongly suggests that moisture movement within the pad is driven by diffusion. Examples of such language are: "principles that govern moisture transmission" (p. 8, [0017]), desorption, capillary action, density, saturation, "increases in concentration" (p. 8, [0017]), "preferentially drawn" (p. 8, [0018]), "attract liquid molecules" (p. 9, [0018]), "moisture would remain concentrated" (p. 9, [0019]), and "absorb water

Application No. 10/800,712 (Marsh) GAU 3632 Amnt. A contd. Page 10 of 13

until equilibrium conditions are reached" (p. 10, [0021]). It is hard to image what these phrases and words mean unless they are understood in terms of diffusion. Certainly it was the applicant's intent that diffusion operates to move moisture molecules within the present invention.

For much needed clarity, however, The Summary of the Invention section beginning on page 7 of the application has been amended to more precisely point out diffusion as driving the movement of moisture between and within the various parts of the present invention, especially moisture movement as it relates to the wicking barrier. Previously the role of diffusion was expressly stated for some parts of the invention, but only implied in the course of narrative for other parts such as the wicking barrier. This vagueness has been rectified.

In fact, all influences on the movement of moisture within the pad, such as the fabric characteristics of each layer and the position of the layer within the pad, are now more clearly described and consolidated in The Summary of the Invention. The composition of each fabric layer was previously listed in several areas of the specification including The Summary, but these various compositions are now linked closely to moisture movement and the overall function of the pad.

The Summary section (p. 7, [0016]) has been reorganized to mirror the subject matter of the Claims: the relationships between layer composition, structural position of each layer, and the cooperation between layers to affect diffusion process.

Paraphrased, this is what the Summary of the Invention now says pertaining to Claim 2c: The wicking barrier cooperates with the layers above it to contain moisture and then to promote desorption. It does this by blocking the cross plane movement of water from the absorbent layer(s). Principles of diffusion dictate that when moisture is blocked and concentration increases molecules will move

Application No. 10/800,712 (Marsh) GAU 3632 Amnt. A contd. Page 11 of 13

toward areas of lesser concentration until saturation occurs. It is the special characteristic of the wicking barrier's fabric composition -- that it does not absorb or allow moisture to pass through it-- as well as its physical position within the pad that are in combination its 'functioning' -- its affect on the direction of moisture movement within the pad. The wicking barrier's position below the absorbent layer causes it to have the effect of an "impenetrable membrane" (Adanur, p. 632), meaning that the concentration of water molecules build along its surface, moving radially in all directions to seek areas of lesser concentration, until the absorbent layer is saturated to the pad's perimeter. This natural process of diffusion is not being claimed, only that the wicking barrier as a structural part of the pad, has a directional affect on the movement of water molecules within the pad as was described above. It is in this way that the wicking barrier cooperates with other layers of the pad to contain and dissipate moisture. Used alone, the wicking barrier would not usefully contain or dissipate water.

Amendments to the Brief Description of the Drawings (p. 11, paragraph [0029]) are also proposed. The composition (i.e., fabric characteristics) of each layer illustrated is identified so it is clear that the hatch marks symbolize the physical impetus for cooperation between parts of the pad. All layer compositions are identified many times in other areas of the Specification, but for ease of reference they are also now included under the Brief Description (p. 11, [0029]). These changes are also justified by the need to mirror the subject matter of the Claim, as well as to be consistent with changes to The Summary of the Invention, by precisely referencing layer composition with extant information about the position of the layers.

Summary of Changes to the Claim Relating to Rejection Under §112

Section 2c of the claim has been amended to more specifically describe the functional role of the wicking barrier as one that influences diffusion. The natural

Application No. 10/800,712 (Marsh) GAU 3632 Amnt. A contd. Page 12 of 13

process of diffusion is not being claimed, only that the wicking barrier as a structural part of the pad—due its position and composition—has a directional affect on the movement of water molecules within the pad as is described in the Specification. Its position is that of being the third layer, which puts it in contact with the absorbent layer at its topside, and generally beneath layers involved with the intake of moisture. 'Wicking barrier' is a common fabric industry term referring to a type of fabric that does not absorb moisture or allow moisture to pass through it, so nothing further has been added about this layer's composition. Claim 2c intends to say that this layer's position and composition are responsible for its influence on the direction of moisture movement within this part of the pad. This influence is to 'divert', like a dam changes the course of a river. Once diverted, diffusion further causes the moisture to spread in plane along/against the wicking barrier (which is also the area of the absorbent layer). Again, this is a reference to the cooperation between these two layers that functionally begins the desorption (drying) process of the pad. Another way of putting it is that the wicking barrier causes the absorbent layer to become saturated, so diffusion forces the water to start moving outward, upward, and out of the pad. This is a key element in the present invention's efficacy.

Summary of Supplemental Changes to the Claim

The applicant believes additional amendments are so obviously required within the light of the Claim 2c rejection, that the Examiner will appreciate it as an expediency to include these changes in the current OA response.

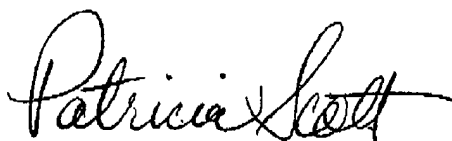
To explain, the central issue under consideration concerns correcting the disconnection between natural processes operating within the invention and the operation of the invention's structural components; this is to say, the affect of the wicking barrier upon diffusion process was not as clearly stated in subsection c. of Claim 2, or in the Specification, as was possible. Changes to subsections a., b., and d. are logically necessitated for balance across Claim 2 as a whole and

Application No. 10/800,712 (Marsh) GAU 3632 Amnt. A contd. Page 13 of 13

for the purpose of correcting the same vagueness found in subsection c. that is the subject of this OAS. These proposed changes bring each subsection of the Claim full circle, meaning each section has been amended to describe the invention in terms of layer position, layer composition, and the influence of the layer upon diffusion process — or, in the case of subsection d., radiant cooling is the relevant natural process (not diffusion) because this layer does not have contact with moisture.

Applicant submits the Claims, Specification and drawings are in condition for allowance.

Very respectfully,



Patricia Scott
19 Squires Lane
Saint Louis, MO 63131
(314) 566-5373